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ST420-PTV SHOTBOX

FOR

PARKERVISION PROTOCOL

USER MANUAL

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1. REVISION HISTORY

121202	Rev. 1.1	Added Polling Setup.
071403	Rev. 1.2	Corrected email address in header.
120803	Rev. 1.3	Added DNF Controls Limited Warranty.

Getting Started . . .

2. SYSTEM DESCRIPTION

The ST420-PTV allows the user to quickly and easily recall up to 300 zoom and Position presets controlling up to 16 ParkerVision CameraMan systems. The alphanumeric LCD switch keys allow labeling of the presets.

The ST420 has 10 banks 30 switches each. The LCD switches allow you to see the preset numbers and labels directly on the switches.

DEFINITIONS

- ❑ The terms CameraMan and ParkerVision are registered logos in the United States of America. Any commercial use of these registered trademarks and logos is prohibited by federal law.
- ❑ Words surrounded by brackets, for example [**ENTER**], are keys on the ST420.

3. INSTALLATION

- a. Connect one end of the 9-pin straight cable to the OUTPUT connector on the ST420 SHOTBOX.
- b. Connect the other end of the cable to COM2 port on the Shot Director.
- c. Connect the Shot Director to the CameraMan systems using RS485 cables.
- d. Connect the supplied POWER SUPPLY, #AP4108, into the POWER connector on the rear of the SHOTBOX. Plug the Power Supply into an outlet, 90 VAC – 240 VAC.

NOTE: The version of the Shot Director software must be V1.91.

4. SETUP

a. SETUP THE SHOTBOX ADDRESS

- 1) Press [**MENU**] key.
- 2) Press SHOTBOX ADDR switch.
- 3) The LCD switches show the numeric keypad and the currently assigned Shotbox address is shown on the right.
- 4) Enter an address from 69 to 254. Default address is 80.
- 5) Press [**ENTER**] to assign that address of the Shotbox.
- 6) Press [**ESC**] to leave the MENU mode.

b. SETUP SHOT DIRECTOR ADDRESS

- 1) Press [**MENU**] key.
- 2) Press SHOT DIR. ADDR switch.
- 3) The LCD switches show the numeric keypad and the currently assigned Shot Director address is shown on the right.
- 4) Enter an address from 68 to 254. Default address is 68. Please verify that the entered address matches the address of the Shot Director. (See the Digital Shot Director manual for instructions.)
- 5) Press [**ENTER**] to save the address.
- 6) Press [**ESC**] to leave the MENU mode.

c. **SELECT CAMERAS TO WORK WITH**

- 1) Press **[MENU]** key.
- 3) Press CAMERA SELECT switch.
- 4) The LCD switches show the cameras from 1 to 16. The switches that show the controlled cameras are Green. The switches that show inactive cameras are Yellow.
- 5) Press the switches 1 – 16 to add/remove cameras to/from the set of controlled cameras.
- 6) Press **[ENTER]** to save your selection.
- 7) Press **[ESC]** to leave the MENU mode.

Setup is complete.

5. **LEARN / VIEW / EDIT A PRESET INTO A SWITCH**

- a. Press **[LEARN]** key. The LED above the LEARN key turns on and the LCD keys turn Yellow to indicate learn mode.
- b. Press a Bank Select key to select a bank to learn the switch into. (This step is not necessary if the switch is on the currently selected bank.)
- c. Press an LCD switch to save preset in.
- d. The LCD switches show the cameras from 1 to 16. The switches that show the controlled cameras are Yellow. The switches that show inactive cameras are Off.
- e. Press the camera switches to add/remove a camera from the preset. Added cameras turn Green.
- f. Press **[ENTER]** to save camera information.
- g. The LCD switches show the numeric keypad and the Preset Number is shown on the right.
- h. Enter Preset Number to Learn. Entering 0 for preset will clear that switch.
- i. Press **[ENTER]** to save Preset Number.
- j. The LCD switches show the alphabetic keypad.
- k. Enter the label for the switch. Use bank keys 0-9 to enter numbers.
- l. Press **[ENTER]** to complete the LEARN.

Press **[ESC]** at any time to abort Learn.

6. RECALL PRESET

- a. Press a Bank Select key 0 – 9 to display the desired bank of switches.
- b. Press an LCD switch to recall the switch.

The preset assigned to the pressed switch is sent to all the cameras assigned to that preset. If the preset is recalled successfully, the pressed switch becomes Yellow; otherwise it becomes Red.

Reference . . .

7. SETUP MENU

- a. Press [**MENU**] key.
- b. Press the Yellow switch with the setup option on it and follow the on-switch instructions.
- c. Press [**ESC**] key when done.

<u>Menu Option</u>	<u>Description</u>
Shotbox Address	Set up Shotbox address for communication with Shot Director and cameras. Default = 80
Shot Director Address	Set up Shot Director address for communication with Shotbox. Default = 68. Should match the address assigned on the Shot Director itself.
Camera Select	Selects cameras to control and monitor.
Clear All Presets	Clears all presets.
Set Factory Defaults	Sets Factory Defaults.
Polling ON/OFF	<p>Press the switch to toggle polling cameras and Shot Director for Status ON/OFF. Default = ON</p> <p>Warning: If polling is turned OFF there will be no indication if the communication with cameras or Shot Director is lost.</p>

8. TROUBLESHOOTING

<u>Symptom</u>	<u>Problem</u>	<u>Solution</u>
All the switches are RED	No communication with any cameras or the Shot Director	Check the RS232 cable between the ST420 and the Shot Director. Check the RS485 connection between the Shot Director and Cameras.
Some of the switches 1 – 16 are DARK	No communication with a particular camera	Check the RS485 connection between the Shot Director and Cameras. Check the “Camera Select” menu options to define if there are cameras selected that are not part of the network.
The recalled switch is RED	There was an error recalling the switch	Check if the preset assigned to the switch exists on a Shot Director. Check if there are any cameras in the preset that are not part of the network or are not connected to the Shot Director.

9. SPECIFICATION

RS232 SERIAL CONNECTOR (OUTPUT)

9-Pin D-Type, Female

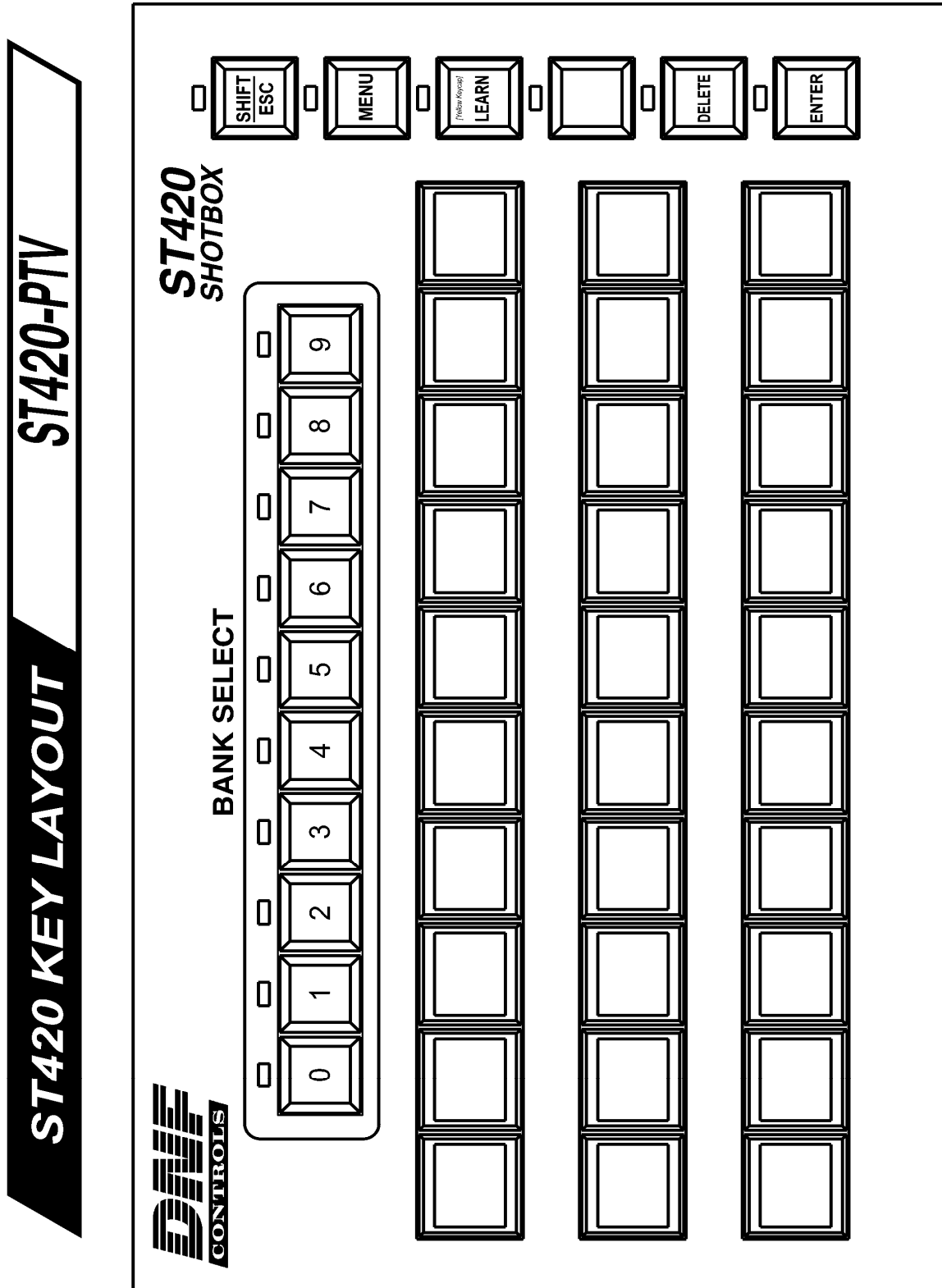
Pin #	1	No connection	6	No connection
	2	Receive ←	7	No connection
	3	Transmit →	8	No connection
	4	No connection	9	No connection
	5	Ground		

POWER CONNECTOR

9-Pin D-Type, Male

Pin #	1	+5v DC	6	No Connection
	2	+5v DC	7	Ground
	3	Ground	8	Ground
	4	No Connection	9	Ground
	5	No Connection		

10. KEY LAYOUT



11. DNF CONTROLS LIMITED WARRANTY

DNF Controls warrants its product to be free from defects in material and workmanship for a period of one (1) year from the date of sale to the original purchaser from DNF Controls.

In order to enforce the rights under this warranty, the customer must first contact DNF's Customer Support Department to afford the opportunity of identifying and fixing the problem without sending the unit in for repair. If DNF's Customer Support Department cannot fix the problem, the customer will be issued a Returned Merchandise Authorization number (RMA). The customer will then ship the defective product prepaid to DNF Controls with the RMA number clearly indicated on the customer's shipping document. The merchandise is to be shipped to:

DNF Controls
12843 Foothill Blvd., Suite C
Sylmar, CA 91342
USA

Failure to obtain a proper RMA number prior to returning the product may result in the return not being accepted, or in a charge for the required repair.

DNF Controls, at its option, will repair or replace the defective unit. DNF Controls will return the unit prepaid to the customer. The method of shipment is at the discretion of DNF Controls, principally UPS Ground for shipments within the United States of America. Shipments to international customers will be sent via air. Should a customer require the product to be returned in a more expeditious manner, the return shipment will be billed to their freight account.

This warranty will be considered null and void if accident, misuse, abuse, improper line voltage, fire, water, lightning or other acts of God damaged the product. All repair parts are to be supplied by DNF Controls, either directly or through its authorized dealer network. Similarly, any repair work not performed by either DNF Controls or its authorized dealer may void the warranty.

After the warranty period has expired, DNF Controls offers repair services at prices listed in the DNF Controls Price List. DNF Controls reserves the right to refuse repair of any unit outside the warranty period that is deemed non-repairable.

DNF Controls shall not be liable for direct, indirect, incidental, consequential or other types of damage resulting from the use of the product.

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